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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/055,425	01/23/2002	Hung Yu David Yang	BP 2095	8355

7590 11/14/2003  
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EXAMINER

MAI, ANH T

ART UNIT PAPER NUMBER

2832

DATE MAILED: 11/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/055,425

Applicant(s)

YANG ET AL.

Examiner

Anh T. Mai

Art Unit

2832

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 and 18-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18-26 is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1 rejected under 35 U.S.C. 102(a) as being anticipated by Tomono et al. [4803453].

Tomono discloses a laminated transformer having primary winding 14a having at least a turn substantially symmetrical positioned on dielectric layer 14; secondary winding 11a having symmetrical turn and positioned over dielectric layer 11 and magnetically coupled to primary winding [figures 1-2].

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomono in view of Christensen {US2003/0071706A1}.

Tomono discloses the invention as claimed as cited above except for a plurality of turns on a first dielectric layer. Christensen discloses a plurality of turn conductor for planar transformer in figures 8-11, with plurality of metal bridges {page 1, para [0011]}. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to provide multiple turn conductor as taught by Christensen to Tomono. The motivation would have been to improve substantially planar transformer suitable for use in integrated circuit {page 1, para [0005]}. Therefore, it would have been obvious to combine Christensen with Tomono.

With respect to claims 4-5, the conductors of Christensen are interwoven spiral type {see figures 8-11}. It would have been obvious to a person of ordinary skill in the art to use interwoven spiral as taught by Christensen to Tomono. The motivation would have been to solidify the conductor. Therefore, it would have been obvious to combine Christensen with Tomono.

5. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tomono in view of Li {5477204}.

Tomono discloses the invention as claimed as cited above except for a center tap connected to ground. Li discloses a center tap 107 connected to ground [figure 2; column 3, lines 21-33]. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use center tap as taught by Li to Tomono. The motivation would have been to function as balanced/unbalanced transformer. Therefore, it would have been obvious to combine Li with Tomono.

6. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomono in view of Christensen and Frye et al. {6097273}.

Tonomo discloses the invention as claimed except for another turn on second one of the dielectric layer. Christensen discloses a plurality of turn conductor for planar transformer in figures 8-11, with plurality of metal bridges {page 1, para [0011]}. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to provide multiple turn conductor as taught by Christensen to Tomono. The motivation would have been to improve substantially planar transformer suitable for use in integrated circuit {page 1, para [0005]}.

Tonomo and Christensen disclose the invention as claimed except for a plurality of operably connecting the turns of the winding. Frye discloses vias 27, 28 to interconnect the coils {figure 2, column 3; lines 13-20}. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use vias as taught by Frye to Tomono and Christensen. The motivation would have been to provide interconnection between the turns through the dielectric layers. Therefore, it would have been obvious to combine Frye with Tomono and Christensen.

With respect to claim 9, Frye balun transformer provided with substrate 20 {figure 2}.

#### ***Allowable Subject Matter***

7. Claims 18-26 are allowed.

The following is an examiner's statement of reasons for allowance:

Claim 18 recite, inter alia, *transformer balun operably coupled to receive the inbound RF signal from an antenna and to provide the outbound RF signal to the antenna.*

The references of record do not teach or suggest the aforementioned limitation, nor would it be obvious to modify those references to include such limitation.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Rabjohn [4816784]; Carpenter [6608364].

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh T. Mai whose telephone number is 703-308-2900. The examiner can normally be reached on 5/4/9 Schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on 703-308-7619. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1782.

am



**ANH MAI  
PRIMARY EXAMINER**